Sodium hydroxide

General information

Key Points

- Toxic by all routes of exposure
- Chemical classification: corrosive
- Inhalation causes irritation to the eyes and nose, sore throat, cough, chest tightness, headache and confusion.
- Ingestion will burn the mouth, throat and stomach
- Skin contact can result in severe burns
- Eye contact causes pain, twitching of the eyelid, watering eyes, inflammation, sensitivity to light and severe burns.
Background

Sodium hydroxide is a white, odourless solid at room temperature. It is also commonly known as caustic soda. Sodium hydroxide is a manufactured chemical and is mainly used as a solid or a 50% solution.

The main use of sodium hydroxide is in the production of other industrial chemicals. It is also used in the pulp, paper, metal, food and textile industries, in water treatment processes and various household products including drain and oven cleaners. Sodium hydroxide is also used in the production of soaps, mineral oils and rubber.

The general population may be exposed to very small amounts of sodium hydroxide due to its use in domestic cleaning products although these sources are unlikely to cause harm if used correctly.

Workers employed in industries that produce, or use, sodium hydroxide may be exposed to higher levels of sodium hydroxide than the general population but safe levels are enforced to protect workers.

If exposed to sodium hydroxide, the potential adverse health effects that may occur depend on the way people are exposed and the amount to which they are exposed. Sodium hydroxide is corrosive. Ingestion causes immediate burning of the mouth and throat, drooling, difficulty swallowing, stomach pain and vomiting. In severe cases there may be blood in the vomit.

Breathing in sodium hydroxide causes irritation of the eyes and nose, sore throat, cough, chest tightness, headache and confusion. In severe cases an accumulation of fluid in the lungs may occur and may take up to 36 hours to develop.

Skin contact with sodium hydroxide can cause severe burns and eye contact may cause pain, twitching of the eyelid, watering eyes, inflammation, sensitivity to light and severe burns.

Exposure to sodium hydroxide, at concentrations that do not affect the mother, are unlikely to affect the health of the unborn child.

Sodium hydroxide is not thought to cause cancer in humans.
Frequently Asked Questions

*What is sodium hydroxide?*

Sodium hydroxide is a white, odourless solid. It is used in various industries including chemical manufacturing, pulp and paper, food and textiles. It is also used in various household cleaning products including drain and oven cleaners.

*How does sodium hydroxide get into the environment?*

Sodium hydroxide may enter the environment during its production and use.

*How will I be exposed to sodium hydroxide?*

The general population may be exposed to very small amounts of sodium hydroxide due to its use in household cleaning products such as oven cleaners. Exposure to large amounts of sodium hydroxide is most likely to occur in an occupational setting.

*If there is sodium hydroxide in the environment will I have any adverse health effects?*

The presence of sodium hydroxide in the environment does not always lead to exposure. Clearly, in order for it to cause any adverse health effects you must come into contact with it. You may be exposed by breathing, eating, or drinking the substance or by skin contact. Following exposure to any chemical, the adverse health effects you may encounter depend on several factors, including the amount to which you are exposed (dose), the way you are exposed, the duration of exposure, the form of the chemical and if you were exposed to any other chemicals.

Inhalation of sodium hydroxide causes irritation of the eyes and nose, sore throat and headache. Ingestion of sodium hydroxide will burn the mouth, throat and stomach causing vomiting, pain, drooling and difficulty swallowing. Skin contact causes severe burns. Eye contact can cause pain, twitching of the eyelids, tearing, inflammation and severe burns.

*Can sodium hydroxide cause cancer?*

There is no evidence to suggest that exposure to sodium hydroxide would cause cancer in humans.

*Does sodium hydroxide affect children or damage the unborn child?*

Exposure to sodium hydroxide at concentrations that do not affect the mother, are unlikely to affect the health of the unborn child.

*What should I do if I am exposed to sodium hydroxide?*

If you have got sodium hydroxide on your skin remove soiled clothing, wash the affected area with lukewarm water and soap for at least 10 – 15 minutes and seek medical advice.

If you have got sodium hydroxide in your eyes remove contact lenses, wash the affected area with lukewarm water for at least 10 – 15 minutes and seek medical advice.

If you have inhaled or ingested sodium hydroxide seek medical advice.
This document will be reviewed not later than 3 years or sooner if substantive evidence becomes available.